

P A T E N T C L A I M S

1. A method of controlling a windmill, especially in stand-alone operation,

said windmill comprising a rotor having a substantially horizontal axis of rotation, at least two blades, which are each at one end connected with the rotor and extending from there substantially along a blade axis, about which the blade can be rotated to an adjustment angle for the blade, a blade adjusting
10 device for adjusting a common basic angle of adjustment for the blades, means for detecting the size of the basic angle of adjustment, means for detecting the load on the windmill, means for detecting the deflection of the blade in the direction of the axis of
15 rotation,

in which method the rotational speed of the windmill rotor is controlled by adjustment of the basic angle of adjustment, a control signal for the blade adjusting device being provided in dependency
20 of the load and the wind speed, whereby the deflection of the blade in the direction of the axis of rotation is used as a measure for the wind speed.

2. A method according to claim 1, wherein the rotational speed of the rotor is measured and used
25 for the provision of the control signal for the blade adjusting device.

3. A method according to claim 1 or 2, wherein as a measure for the wind speed the deflection of the blade having the greatest deflection is used.

30 4. A windmill comprising

a rotor having a substantially horizontal axis of rotation,

at least two wings, which are each at one end

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connected with the rotor and extending from there substantially along a blade axis, about which the blade can be rotated,

a first bearing for an adjustment angle for the
5 blade,

a blade adjusting device for adjusting a common basic adjustment angle for the blades,

a hinge between the blade and the rotor with a hinge axis extending in a direction transversely to
10 the blade axis and the direction of the axis of rotation of the rotor, whereby the blades can each be deflected in the direction of the axis of rotation of the rotor by rotation about the respective hinge axis, and comprising a device for detecting the size
15 of the deflection of a blade in the direction of the axis of rotation of the rotor and means for detecting the size of the basic angle of adjustment and means for transferring a detected size of a blade deflection and a detected size of the basic angle of ad-
20 justment to a controlling device.

5. A windmill according to claim 4, comprising a device for detecting the deflection of the blade having the greatest deflection.

6. A windmill according to claim 4 or 5, comprising means for detecting the rotational speed of
25 the rotor and means for transferring the detected value to a control unit.

7. A windmill according to any of the claims 4 to 6, comprising a control unit for providing a con-
30 trol signal to the blade adjusting device.